What is claimed is:

1. A support unit for a microfluidic system, comprising:

a first support;

a first adhesive layer provided on a surface of the first support; and

a hollow filament laid on a surface of the first adhesive layer to have an arbitrary shape and functioning as a flow channel layer of the microfluidic system.

2. A support unit for a microfluidic system, comprising:

a first support;

a first adhesive layer provided on a surface of the first support; and

a first hollow filament group constituted by a plurality of hollow filaments laid on a surface of the first adhesive layer and respectively functioning as a plurality of flow channel layers of the microfluidic system.

3. The support unit for a microfluidic system according to claim 2, further comprising:

a second adhesive layer provided on a surface of the first hollow filament group; and

a second support provided on a surface of the second adhesive layer.

4. The support unit for a microfluidic system according to claim

2 or 3, further comprising a second hollow filament group constituted by a plurality of hollow filaments laid in a direction so as to intersect with the first hollow filament group and functioning as another plurality of flow channel layers of the microfluidic system.

5. The support unit for a microfluidic system according to any one of claims 2 to 4, wherein the plurality of hollow filaments is partially exposed from the first support.

6. The support unit for a microfluidic system according to any one of claims 2 to 5, wherein a metal film is formed on a part of at least one of the plurality of hollow filaments.

7. The support unit for a microfluidic system according to any one of claims 2 to 6, wherein at least one of the plurality of hollow filaments is partially provided with an optically transparent portion.

8 A support unit for a microfluidic system, comprising:

a first support;

a first adhesive layer provided on a surface of the first support;

a plurality of hollow filaments laid on a surface of the first adhesive layer;

a second adhesive layer provided on the first adhesive layer and the hollow filaments;

a second support provided on a surface of the second adhesive layer; and

a relay portion provided in the first adhesive layer and the second adhesive layer and connecting routes of the hollow filaments.

9. The support unit for a microfluidic system according to claim 8, wherein the relay portion includes a part of the second support.

10. A manufacturing method of a support unit for a microfluidic system, comprising:

forming a first adhesive layer on a surface of a first support; and

laying a hollow filament on a surface of the first adhesive layer.

11. A manufacturing method of a support unit for a microfluidic system, comprising:

forming a first adhesive layer on a surface of a first support; and

laying a first hollow filament group constituted by a plurality of hollow filaments, on a surface of the first adhesive layer.

12. The manufacturing method of a support unit for a microfluidic system according to claim 11, between the forming the first adhesive layer and laying the first hollow filament group, the manufacturing method further comprising:

providing release layers on the surface of the first adhesive layer at positions where the hollow filaments are exposed; and

providing a slit in the first support,

wherein the first hollow filament group is laid to be in contact with both surfaces of a pair of the release layers.

13. The manufacturing method of a support unit for a microfluidic system according to claim 11 or 12, further comprising the laying a second hollow filament group constituted by a plurality of hollow filaments in a direction so as to intersect with the first hollow filament group, after the laying the first hollow filament group.

14. The manufacturing method of a support unit for a microfluidic system according to claim 11 or 12, after the laying the first hollow filament group, the manufacturing method further comprising:

forming a second adhesive layer on a surface of the first hollow filament group; and

adhering a second support onto a surface of the second adhesive layer.

15. A manufacturing method of a support unit for a microfluidic system, comprising:

forming a first adhesive layer on a surface of a first support;

laying a plurality of hollow filaments on a surface of the first adhesive layer;

forming a second adhesive layer on the first adhesive layer

and the hollow filaments;

forming a relay portion in the first adhesive layer and the second adhesive layer; and

adhering a second support onto a surface of the second adhesive layer.

16. The manufacturing method of a support unit for a microfluidic system according to claim 15, wherein the forming the relay portion in the first adhesive layer and the second adhesive layer further includes forming the relay portion so that the second support becomes a part of the relay portion.